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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/754,806 01/02/01 LIU

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MM91/1105

EXAMINER

NADAV, O

ART UNIT

PAPER NUMBER

2811
DATE MAILED:

11/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

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Office Action Summary

Application No.
09/754,806

Applicant(s)
Liu et al.

Examiner
ORI NADAV

Art Unit
2811



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 2, 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-48 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Jan 2, 2001 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "202" (and "302") has been used to designate both first permeability dielectric and second permeability dielectric. Correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 24-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornett et al. (6,069,397) considered alone, or over Cornett et al. in view of Ewen et al. (5,446,311).

Cornett et al. teach in figure 2 a structure in a semiconductor chip, the structure comprising a dielectric 217 having a first permeability, a permeability conversion material 221, 223 having a second permeability, the permeability conversion material being interspersed within the dielectric, wherein the second permeability is greater than

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the first permeability (column 2, lines 39-62), an inductor comprising a square spiral conductor patterned within the dielectric, the conductor having first and second terminals, the first and second terminals of the conductor being respectively first and second terminals of the inductor.

Although Cornett et al. do not explicitly state that the second permeability is greater than the first permeability, it is well known in the art that a conventional passivation and dielectric layers 217 comprise silicon oxide whose permeability is lower than the first permeability of a magnetic oxide 221, 223. Therefore, the claimed structure is considered to be at least obvious over Cornett et al.'s structure.

In the alternative, Ewen et al. teach in figure 3 a dielectric layer 2 comprising silicon oxide. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a dielectric layer comprising silicon oxide in Cornett et al.'s device in order to insulate the device with a conventional insulating material, of which official notice is taken.

Regarding claim 27, Cornett et al. teach in figure 2 second permeability being achieved by interspersing a permeability conversion material within the second area of the dielectric, the permeability conversion material having a third permeability, the third permeability being greater than the first and second permeabilities.

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Regarding claims 29, 35 and 46, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a conductor being selected from the group consisting of copper, aluminum, and copper-aluminum alloy in Cornett et al.'s device in order to provide good conductivity for the device with a conventional conducting material, of which official notice is taken..

Regarding the processing limitations recited in claims 38, 44 and 45 ("the permeability conversion material is interspersed in the second dielectric area by ion implantation and by sputtering when the first dielectric area is covered with photo resist"), these would not carry patentable weight in this claim drawn to a structure, because distinct structure is not necessarily produced. In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985).

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References C-D and N-P are cited as being related to spiral conductors comprising high permeability.

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Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(703) 308-8138**. The Examiner is in the Office generally between the hours of 7 AM to 3 PM (Eastern Standard Time) Monday through Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas, can be reached at **(703) 308-2772**.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**

Ori Nadav

November 1, 2001

Steven Loke
Primary Examiner

